



# M&S Working Group

## **CNO T&E 20% Cost Reduction Task EXCOMM Meeting 20 May, 2004**

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# M&S Working Group

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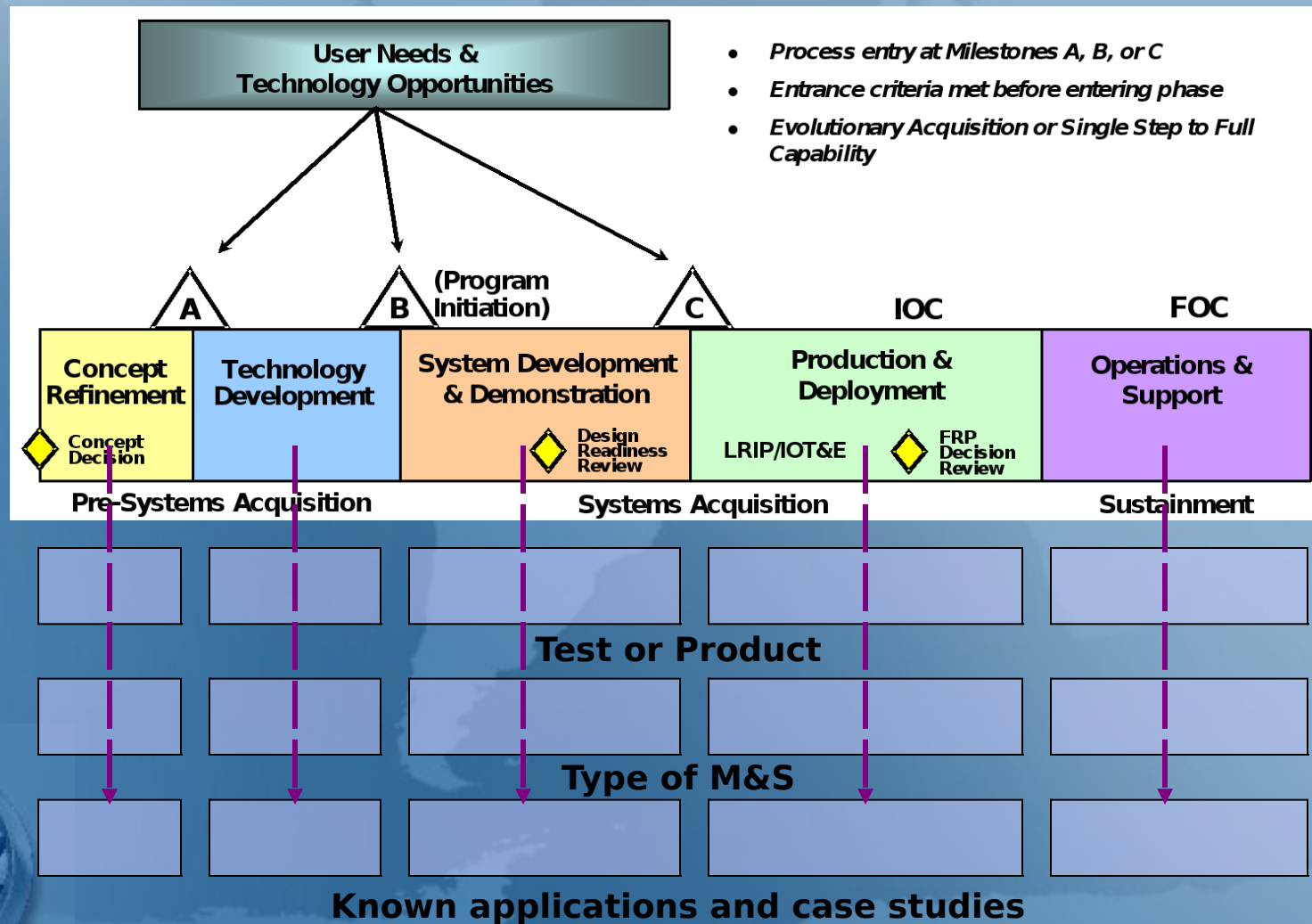


# M&S Section of the Roadmap

- Create a plan that will:
  - Identify current and future M&S applications
  - Investigate potential cost savings throughout the acquisition cycle
  - Coordinate with Previous Studies Working Group to evaluate case studies,
  - Evaluate supporting policy, infrastructure and test approaches



# DoD 5000.2 Model



# Special Topics

- Acquisition challenges, i.e., open architecture, interoperability, incremental/spiral development
- Verification and Validation
- Coordinating data - common events, independent analysis
- Statistical analysis - appropriate approaches to determine sample size



# Case Studies

- AIM 9X - M&S integrated throughout development
- SH-60R - need to validate models throughout the life cycle
- Pershing Missile - statistical approaches to identify economical sample sizes





# Challenges

- Assigning costs associated with M&S initiatives
- Estimating savings given increased use
- Return on investment
  - Life cycle M&S development
  - Common threat models
  - Integrating test and training architectures
- M&S as surrogate for unrealistically expensive or impractical testing may not represent actual savings



# Summary

- M&S section of the Roadmap will provide the framework to:
  - Determine potential reduction in T&E costs
  - Provide guidance for applications throughout the acquisition cycle
  - Clarify understanding of appropriate use





# Questions?




# Application areas

- Support Concept/Tech Development and System Development & Demo Phases
- Validate and dry-run scenarios prior to testing
- Provide surrogate systems to augment live testing during DT/OT
- Conduct excursion analysis where live testing is not practical or possible
- Verification of corrected deficiencies



# Thoughts on Modeling and Simulation

- Shift problem discovery earlier in the process, improving the value of earlier T&E activities
- Expand the reach of T&E by increasing breadth and depth of testing
- Support testing that is otherwise limited with available operational resources
  - Joint/Allied Interoperability
  - Net-Ready KPP
  - Open Architecture



**Objective is to reduce the burden on the operational fleet, and deliver a better product supported by better testing**